

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Before the Board of Patent Appeals and Interferences**

**In re the Application**

**Inventor** : **Eric Cohen-Solal et al.**

**Application No.** : **09/703,419**

**Filed** : **November 1, 2000**

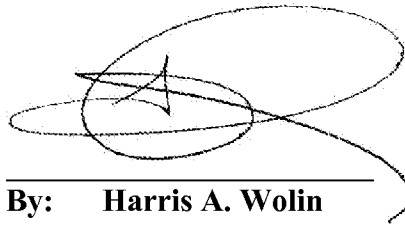
**For** : **METHOD AND APPARATUS FOR TRACKING AN  
OBJECT OF INTEREST USING A CAMERA  
ASSOCIATED WITH A HAND-HELD PROCESSING  
DEVICE**

**Examiner** : **Kelly L. Jerabek**

**Art Unit** : **2622**

**REPLY BRIEF**  
**in**  
**RESPONSE TO EXAMINER'S ANSWER**

**Yan Glickberg**  
**Registration No. 51,742**

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**Date: November 12, 2007**

**By: Harris A. Wolin**  
**Attorney for Applicant**  
**Registration No. 39,432**

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## **I. STATUS OF CLAIMS**

Claims 1, 4, 6 and 10-15 are presented for examination. All of these claims are pending, stand finally rejected, and form the subject matter of the present appeal.

## **II. GROUND FOR REJECTION TO BE REVIEWED ON APPEAL**

The grounds of rejection to be reviewed on appeal are:

1. Claims 1, 4, 6, 10 and 12-15 stand rejected under 35 USC §103(a) as being unpatentable over the combination of Platte in view of Saburi; and
2. Claim 11 stands rejected under 35 USC §103(a) as being unpatentable over Platte in view of Saburi and further in view of Vincent.

## **III. ARGUMENT**

### **1. 35 USC §103 Rejection of claims 1, 4, 6, 10 and 12-15**

The rejection of claims 1, 4, 6 and 10-15 continues to be in error because the cited references fail to teach or render obvious the following elements from claim 1 and the claims dependent therefrom, and similar elements from claims 14 and 15:

“continuously detecting relative movement between the hand-held device and the object of interest within a displayed image generated by said camera; and continuously electronically adjusting the camera, without use of a motor, in response to the detected relative movement, ...”

Applicant further respectfully submits that the reasoning used in support of the §103(a) rejection is not only defective, but is circular, with such reasoning focusing purely on the

result as supporting the alleged method, and not on the method used to achieve such result.

For example, as set forth on page 9 of the Examiner's Answer, "The Examiner acknowledges that the Platte reference discloses monitoring movement of the camera, **and then** employing correction factors to the starting point of image scanning to compensate for movement of the target image within the image field." Thus, there is an acknowledgement that Platte teaches a certain method or progression used to achieve the particular result of employing correction factors to the starting point.

But then the Examiner indicates that:

"However, this feature reads on the claims as currently written.

It can be seen in figures 1A-1C that if the image field (2) located within the target (1) is shifted due to a sudden movement of the camera housing the point (S) for the starting of the raster scanning is corrected so that the starting point (S) of the shifted image fields (2) in figures 1B and 1C is the same as the starting point (S) for the desired image field (2) of figure 1 (col. 2, lines 13-46).

Therefore, it can be seen that the camera is continuously electronically adjusted without the use of a motor (shifting the starting point S of the raster deflection) in response to the detected relative movement (in response to the shift in the field (2)) so as to maintain a desired framing (the desired field 2 within the target 1 is being read as the framing) and tracking of the object of interest within an image, for providing a stable image in the event of an inadvertent acceleration of the

camera housing (e.g. Movement of a user's hand holding the camera) (col. 1, lines 33-67; col. 2, line 47-col. 4, line 7)."

However, the Examiner never illustrates how Platte reads on the claims as currently written. Furthermore, the support for the argument "...in response to the detected relative movement (in response to the shift in the field (2))" is circular in that the shift in the field (2) is in reality in response to detected movement of the camera **only**, and not in response to any "detected relative movement" between the camera and the object. Thus, there is never a clear connection made in Platte relating to the claim element "continuously detecting relative movement between the hand-held device and the object of interest within a displayed image generated by said camera." The Examiner is effectively stating that a movement in the field (2) results in a movement of "S," which is, again, circular.

Applicant respectfully submits that the movement of the starting point "S" in Platte is not from the result of "continuously detecting relative movement between the hand-held device and the object of interest within a displayed image generated by said camera" as currently set forth in Applicant's claims, but is instead the result of "means for producing a correcting variable **representing acceleration of the camera** and for causing shifting of the starting point of the scanning raster on the target **when the acceleration exceeds a predetermined value**" as set forth in **claim 1** of Platte. Thus, claim 1 of Platte provides clear support for the Applicant's argument that any adjustment in Platte is purely the result of a monitoring of the camera itself, and not the result of "continuously detecting relative movement between the hand-held device and the object

of interest within a displayed image generated by said camera” as per Applicant’s claims. The fact that Platte arrives at a particular result of a shifting of the starting point “S” does not support the argument that Platte arrives at such shifting by “continuously detecting relative movement” between the camera and the field (2). The shifting of start “S” is a clear result of only monitoring the movement of the camera as **disclosed and claimed** in Platte. Applicant further submits that Saburi is completely silent in this regard.

Thus, Applicant continues to respectfully submit that Platte in view of Saburi fails to first teach or render obvious "detecting relative movement between the hand-held device and the object of interest within a displayed image generated by said camera and continuously electronically adjusting the camera, without use of a motor, in response to the detected relative movement, so as to maintain the desired framing." Rather, as specifically disclosed and claimed in Platte, Platte discloses monitoring movement of the camera, and then employing correction factors to the starting point of the image scanning to compensate for the movement of the target image within the viewing field.

With regard to claim 1, Applicant respectfully submits that a *prima facie* case of obviousness has not been set forth. As shown neither Platte nor Saburi disclose or suggest detecting relative movement between the object and the camera and adjusting the camera setting in accordance with the detected movement to maintain a desired framing of the object. Hence, the combination of Platte and Saburi fails to teach or suggest all the claim limitations recited.

With regard to independent claims 14 and 15, these claims were rejected for the same reason stated in rejected claim 1. Claims 14 and 15 include subject matter similar

to that recited in claim 1. Hence, for the remarks made with regard to claim 1, which are repeated in overcoming the rejection of claims 14 and 15, Applicant respectfully submits that a *prima facie* case of obviousness has not been set forth with regard to claims 14 and 15.

With regard to the dependent claims, these claims depend from the independent claims. Applicant respectfully submits that these claims are allowable at least for their dependence upon allowable base claims, without even contemplating the merits of the dependent claims, as held by *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (if an independent claim is non-obvious under 35 U.S.C. §103(a), then any claim depending therefrom is non-obvious).

## **2. 35 USC §103 Rejection of claim 11**

The rejection of claim 11 is in error because the combination of the references fails to show a limitation cited in independent claim 1 from which claim 11 depends. Claim 11 depends from independent claim 1, which includes subject matter not disclosed by, and allowable over, the combination of Platte and Saburi. Applicant submits that claim 11 is allowable at least for its dependence upon an allowable base claim, without even contemplating the merits of the dependent claim for the reasons held in *In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596 (Fed. Cir. 1988) (if an independent claim is non-obvious under 35 U.S.C. §103(a), then any claim depending therefrom is non-obvious).

Notwithstanding the argument above, claim 11 depends from claim 1, which has been shown to include subject matter not disclosed by the combination of Platte and

Saburi and the Vincent references fails to disclose the subject matter found deficient in the combination of Platte and Saburi.

In view of the above, applicant submits that the above referred-to claims are patentable over the teachings of the cited references.

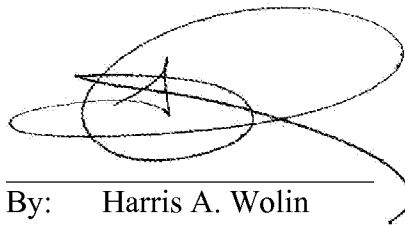
#### IV. CONCLUSION

In view of the law and facts stated herein, it is respectfully submitted that the teachings of the cited references fail suggest the claimed invention and the burden of showing that reference discloses all of the features, expressly or inherently, recited in the claims has not been met.

It is respectfully requested that this honorable board reverse all outstanding grounds for rejecting the claims.

Respectfully submitted,

Yan Glickberg  
Registration No. 51,742

A handwritten signature in black ink, appearing to be 'Harris A. Wolin', written over a horizontal line.

By: Harris A. Wolin  
Attorney for Applicant  
Registration No. 39,432

Date: November 12, 2007



V. CLAIMS APPENDIX

**The claims which are the subject of this Appeal are as follows:**

Claim 1. A method for automatically framing and tracking an object of interest using a video camera integrated into hand-held processing devices including PDAs, mobile telephones, palmtops, and portable computers to insure stability of the image content as a user manipulates the device, the method comprising the steps of:

providing said video camera with a wide field of view;

continuously detecting relative movement between the hand-held device and the object of interest within a displayed image generated by said camera; and

continuously electronically adjusting the camera, without use of a motor, in response to the detected relative movement, so as to maintain a desired framing and tracking of the object of interest within an image and/or successive images, as long as the image or images remain in the field of view generated by the camera for selectively providing either one of a still picture of the object or video image of the object, respectively, for providing a stable image in the presence of movement of a user's hand holding said device.

Claim 4. The method of claim 1 wherein the camera is physically adjustable by a user.

Claim 6. The method of claim 1 wherein the camera has one or more of solely electronically adjustable pan setting, an adjustable tilt setting, and an adjustable zoom setting, performed without use of a motor.

Claim 10. The method of claim 1, wherein said step of continuously electronically adjusting the camera is based at least in part on an output of an orientation determination device integrated into or otherwise associated with the hand-held device, for detecting relative movement between said device and an object of interest caused by movement of a user's hand.

Claim 11. The method of claim 10 wherein the orientation determination device comprises one or more gyroscopes integrated into the hand-held device.

Claim 12 (Previously presented): The method of claim 1, wherein said step of continuously electronically adjusting the camera is based at least in part on an output of an image processing operation applied to an image generated by the camera.

Claim 13 (Previously presented): The method of claim 1, wherein said step of continuously electronically adjusting the camera is based at least in part on a hybrid combination of an orientation determination operation and an image processing operation.

Claim 14 (Previously presented): An apparatus for automatically framing and tracking an object of interest, the apparatus comprising:

a hand-held processing device including PDA's, mobile telephones, palmtops, and portable computers, having at least one video camera integrated therein, the hand-held device further comprising a processor operative to continuously monitor the detection of relative movement between the hand-held device and the object of interest, due to movement of a user's hand holding said device, said processor being responsive to the detected relative movement for continuously solely electronically adjusting, without use of a motor, at least one setting of the camera so as to continuously maintain a desired framing of the object of interest within an image generated by the camera as a user manipulates the device, for providing a stable image.

Claim 15. An article of manufacture comprising a storage medium for storing one or more programs for tracking an object of interest using at least one video camera having integrated into a hand-held processing device, including PDA's, mobile telephones, palmtops, and portable computers, wherein the one or more programs when executed by a processor implement the steps of:

detecting relative movement between the hand-held device and the object of interest; and

adjusting solely electronically, without use of a motor, at least one setting of the camera, in response to the detected relative movement, so as to maintain a desired framing of the object of interest within an image generated by the camera, for providing a stable image.